

REMARKS

Claims 1-2 and 6-14 have been examined. Claims 9 and 10 have been rejected under 35 U.S.C. § 112, first paragraph and second paragraph, and claims 1, 2 and 6-10 have been rejected under 35 U.S.C. §103(a).

I. Preliminary Matters

On pg. 2 of the Office Action, the Examiner has restricted out claims 11-14 as being directed to a method, whereas claims 1, 2 and 6-10 are directed to an apparatus. Applicant acknowledges the restriction.

The Examiner has requested Applicant's cooperation in correcting any errors of which Applicant may become aware in the specification. Applicant notes that amendments to the specification were provided in the June 24, 2004 Amendment.

II. Rejections under 35 U.S.C. § 112, first paragraph

The Examiner has rejected claims 9 and 10 under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement. In particular, the Examiner maintains that the features of claims 9 and 10 are not described in the specification in such a way as to reasonably convey to one skilled in the art that the inventors had possession of the claimed invention.

On pg. 3 of the specification, a non-limiting embodiment is disclosed where the brazing foil material is wound around an outer periphery of an exhaust gas outlet side of a core, while the solder-rising preventing groove is positioned on an exhaust gas inlet side of an area for joining the core (last paragraph beginning on pg. 3 and ending on pg. 4). Based on such disclosure, one skilled in the art would recognize that the features are provided on opposite sides, i.e., outlet and inlet, and as such, when “wound”, the brazing foil material is not disposed in the solder-rising preventing groove, as recited in claim 9. As further disclosed in the non-limiting embodiment, the brazing material does not rise towards the inlet side of the core until melted by heat treatment (i.e., which occurs during use of the metallic carrier) (second full paragraph on pg. 4).

In view of the above, Applicant submits that the features of claim 9 are described in such a way as to reasonably convey to one skilled in the art that the inventors had possession of the claimed invention.

Further, Applicant submits that similar disclosure as provided above also supports the features of claim 10. In particular, in the non-limiting embodiment on pg. 3, the solder-rising preventing groove is disclosed as being positioned on the exhaust gas inlet side. In such non-limiting embodiment, the solder-rising preventing groove is not disclosed as being provided on both the inlet and outlet sides, but only on the one side or “one end” as recited in claim 10. Applicant further directs the Examiner’s attention to Fig. 1A, where the solder rising preventing groove 19 is only shown on the one end of the cylinder 15.

In view of the above, Applicant submits that the features of claim 10 are described in such a way as to reasonably convey to one skilled in the art that the inventors had possession of the claimed invention.

III. Rejections under 35 U.S.C. § 112, second paragraph

The Examiner has rejected claims 9 and 10 under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite.

In regard to claim 9, Applicant directs the Examiner's attention to the comments provided above in the rejection under 35 U.S.C. § 112, first paragraph. As explained, claim 9 is directed to the actual "winding" of the brazing foil material, and not in regard to the brazing material once heated, where the wound brazing foil material may spread.

In regard to claim 10, the Examiner maintains that it is unclear where it is disclosed in the specification that the groove is provided on "only" one end of the cylinder. Applicant directs the Examiner's attention to the comments provided above in the rejection under 35 U.S.C. § 112, first paragraph.

IV. Rejections under 35 U.S.C. § 103(a) in view of U.S. Patent No. 4,948,774 to Usui et al. (“Usui ‘774”), JP 08-141413 to Shimada (“Shimada”) and U.S. Patent No. 4,248,186 to Nonnenmann et al. (“Nonnenmann”)

The Examiner has rejected claims 1, 2 and 6-10 under 35 U.S.C. § 103(a) as being unpatentable over Usui ‘774, Shimada and Nonnenmann.

A. Claim 1

Claim 1 recites that a brazing foil material is wound around an outer periphery of an exhaust gas outlet side of a core, while a solder-rising preventing groove is defined at a position located on an exhaust gas inlet side. Further, the brazing foil material is wound so as not to be disposed in the solder-rising preventing groove.

The Examiner maintains that Usui ‘774 discloses the above features. In particular, the Examiner maintains that the grooves 7 disclose the claimed solder-rising preventing groove, and the brazing material 8 discloses the claimed brazing foil material. Usui ‘774 discloses that the grooves 7 serve to retain the brazing material 8 (col. 4, lines 24-25). In particular, the rods of brazing material 8 are placed and held in each of the grooves 7 to provide an adequate degree of joining strength (col. 4, lines 18-20 and 43-45). There is no disclosure that the rods of brazing material 8 are placed in any other portion of the casing 6 other than in the grooves 7. Further, since the specific purpose of the grooves is to retain the rods of brazing material to improve the joining strength between the honeycomb core structure 2, 2’ and the metal casing 6, 6’, Applicant submits that there is likewise no motivation or suggestion to provide the rods of

brazing material in any other portion of the casing 6 other than the grooves 7 (col. 4, lines 18-25).

On the contrary, claim 1 recites that the brazing foil material is wound so as not to be disposed in the solder-rising preventing grooves. Accordingly, since the brazing material 8 of Usui '774 is actually placed and held in the grooves 7, rather than wound around so as not to be disposed in the grooves 7, Applicant submits that Usui '774 fails to teach or suggest the features recited in claim 1.

Further, claim 1 recites that the solder-rising preventing groove prevents the melted brazing foil material from flowing toward the exhaust gas inlet side of the core.

As set forth above, Usui '774 merely discloses that the brazing material 8 is actually placed in the grooves 7.

In addition, since Shimada and Nonnenmann fail to cure the deficient teachings of Usui '774, as set forth above, Applicant submits that claim 1 is patentable over the cited references.

B. Claims 2, 6, 7

Since claims 2, 6 and 7 are dependent upon claim 1, Applicant submits that such claims are patentable at least by virtue of their dependency.

C. Claim 8

Applicant submits that claim 8 is patentable over the cited references. For example, claim 8 recites that the solder-rising preventing groove protrudes inwardly, such that a portion of the core, which corresponds to the positioning of the solder-rising preventing groove, is crushed.

The examiner maintains that such feature is an obvious matter of design choice. However, one skilled in the art would not be motivated to modify Usui '774 to have a groove protruding inwardly, since the reason the grooves 7 are provided is to retain rods of brazing material 8 for improved joining strength between the honeycomb core structure 2, 2' and the tubular metal casing 6, 6' (col. 4, lines 18-25). If the grooves 7 protruded inwardly, there would be no place for the rods of brazing materials to be positioned. Accordingly, even if Applicant assumed *arguendo* that the features of claim 8 are a matter of design choice, one skilled in the art would still not be motivated to modify Usui '774 in the claimed manner.

Since Shimada and Nonnenmann fail to cure the deficient teachings of Usui '774, Applicant submits that claim 8 is patentable over the cited references.

In addition, since claim 8 is dependent upon claim 1, Applicant submits that such claim is patentable at least by virtue of its dependency.

D. Claims 9 and 10

The Examiner maintains that claims 9 and 10 contain new subject matter, and as such, have not been applied against the cited art, even though they are listed as being rejected under 35

Amendment under 37 C.F.R. § 1.116
U.S. Application No. 09/768,512

U.S.C. § 103(a). Nevertheless, for the reasons set forth above, Applicant submits that claims 9 and 10 are fully supported by the specification.

Further, claim 9 has been canceled, without prejudice or disclaimer, and incorporated into claim 1. Accordingly, Applicant's comments with regard to the subject matter of claim 9 are set forth above.

In regard to claim 10, Applicant submits that the cited references fail to teach or suggest that a solder-rising preventing groove is provided only on one end of an outer cylinder. Accordingly, in addition to its dependency upon claim 1, Applicant submits that claim 10 is patentable over the cited references.

V. Rejections under 35 U.S.C. § 103(a) in view of U.S. Patent No. 5,026,611 to Usui et al. (“Usui ‘611”), Shimada and Nonnenmann

The Examiner has rejected claims 1, 2 and 6-10 under 35 U.S.C. § 103(a) in view of Usui ‘611, Shimada and Nonnenmann.

1. Claim 1

Since Usui ‘661 discloses similar features as Usui ‘774, Applicant submits that claim 1 is patentable over Usui ‘661, Shimada and Nonnenmann for at least analogous reasons as presented above.

In addition, claim 1 recites that the solder-rising preventing groove prevents the melted brazing foil material from flowing toward the exhaust gas inlet side of the core.

As disclosed in one embodiment of Usui '611, the molten brazing material is made to penetrate the entire area of contact between the metal casing 6 and the honeycomb core structure 2 to join the members. As such, the fine recesses 7 do not prevent the molten brazing material from flowing toward an exhaust gas inlet side of the honeycomb structure 2.

2. Claims 2, 6 and 7

Since claims 2, 6 and 7 are dependent upon claim 1, Applicant submits that such claims are patentable at least by virtue of their dependency.

C. Claim 8

Applicant submits that claim 8 is patentable over the cited references for at least analogous reasons as presented above for claim 8 in view of Usui '774. In addition, Applicant submits that claim 8 is patentable at least by virtue of its dependency.

D. Claims 9 and 10

The Examiner maintains that claims 9 and 10 contain new subject matter, and as such, have not been applied against the cited art, even though they are listed as being rejected under 35 U.S.C. § 103(a). Nevertheless, for the reasons set forth above, Applicant submits that claims 9 and 10 are fully supported by the specification.

Amendment under 37 C.F.R. § 1.116
U.S. Application No. 09/768,512

Further, claim 9 has been canceled, without prejudice or disclaimer, and incorporated into claim 1. Accordingly, Applicant's comments with regard to the subject matter of claim 9 are set forth above.

In regard to claim 10, Applicant submits that the cited references fail to teach or suggest that a solder-rising preventing groove is provided only on one end of an outer cylinder. Accordingly, in addition to its dependency upon claim 1, Applicant submits that claim 10 is patentable over the cited references.

VI. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



Allison M. Tulino
Registration No. 48,294

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE
23373
CUSTOMER NUMBER

Date: January 18, 2005